

Abstract of the Disclosure

The topology of a network is represented, or emulated, by a topology engine comprising processing elements interconnected via a connection matrix. Queries representing physical problems of the network are supplied by a host processor to the topology engine, where they are processed in the processing elements in accordance with the topology to produce responses which are returned to the host processor. In particular, the network can be a communications network and the queries can comprise search requests for determining connection paths between devices of the network. The topology engine can use processors with multiple instances so that it is more compact than the communications network that it represents.